

All Terrain ATF 220G-5



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Remark: BAUMA 2010 introduction on the ATF 220G-5

The 8,5/ 20,9 m Hydraulic Telescopic Luffing Jib (HTLJ), please get in touch for the new DVD!

Go on, be different

When times are busy, deadlines are tight and business is good, companies can be forgiven for sticking with what they know. After all, what's the point of taking risks when everything is stretched to the maximum?

However with many businesses currently struggling to survive with reduced work loads you would think we'd all be looking for ways to do things more efficiently to save money and get in shape for when the good times return. But are we?

Let's take mobile cranes. Regular users tend to call up their usual suppliers and then either beat them up on price or shop around among the rate cutters and by shaving a few pounds off the rate, classify this as increased efficiency.

However, by not opening their eyes to different methods of work, they may be oblivious to more significant savings. Sometimes new methods of work can also improve safety and not jeopardise future pricing by pushing rental rates down to unsustainable levels. One 'new' work method might be to use a self erecting mobile tower crane rather than a regular All Terrain? The Dutch know a thing or two about efficiency, so it is no surprise that it has by far the highest proportion of mobile towers in the world. It is clear that many contractors are still unaware of the benefits mobile towers can offer.

A large seven axle mobile tower crane can set up alongside an

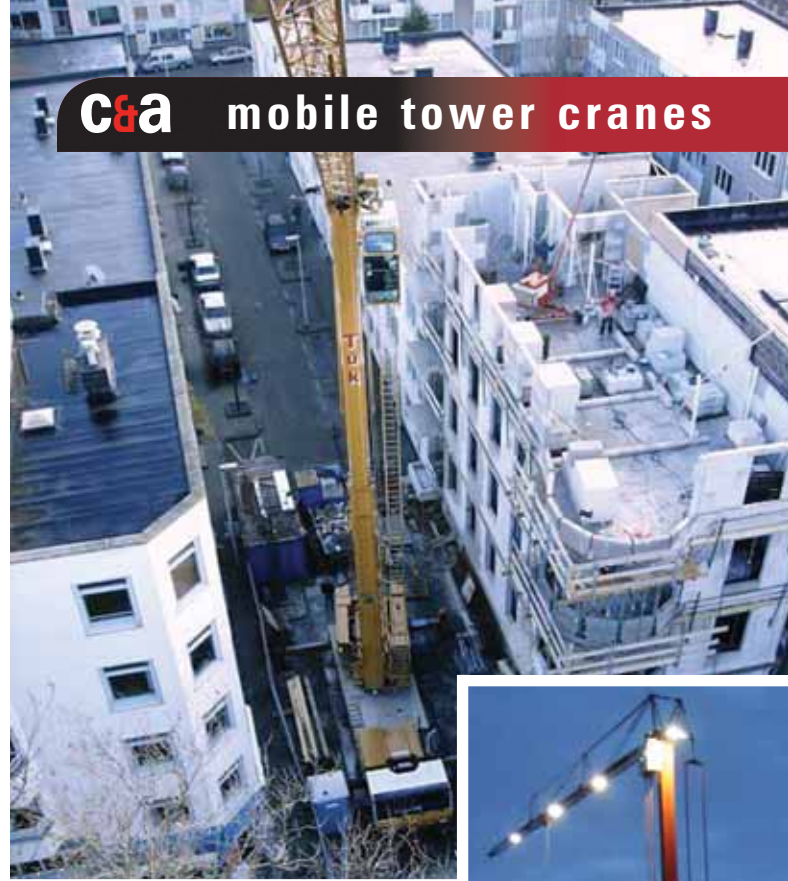
eleven storey, 30 plus metre high building and be ready to work in about 15 minutes. It can place a load of up to 5.5 tonnes up to 42 metres radius. The equivalent All Terrain needed to do the same lift would be at least a 250 tonner with long jib.

Add to this the fact that delivering and setting up such an All Terrain in a city centre requires a huge amount of logistics (including longer road closures) and could take a weekend just to set up and strip down for a lift that may take an hour. The self contained mobile self erector can be ready to lift with a half hour and then ready to leave in a similar time frame with the whole job done before the police have realised that you are blocking the street.

So when it comes to working in the city there really is no contest unless the load is substantial. However while mobile towers are the king of the city streets, they can also clean up on suburban work, such as steel erection or roofing on large industrial distribution warehouses. While the fast set up and clean 'up and over' reach are not at such a premium for this type of work, they are substantially more efficient thanks to their tower crane configuration and up to 60 metre working radius.



Arcomet showed off its A45D City at Bauma



The operator has an optimum view of the area and the loads are quickly 'trolleyed' along the horizontal jib where a regular telescopic has to move its heavy boom in and out, and or telescope/ retract in order to shift loads from one spot to another, consuming substantially more fuel and time.

Switched-on contractors know that a mobile self erector with a good operator will easily carry out more than 100 lifts a day, even when they are to different positions and heights and from a location that requires more than just lifting and slewing. If the contract is well planned - and these days it ought to be - a contractor can shave days, if not weeks off of the steel erection time. The same would apply to a number of other jobs with such repetitive work.

All too often a contractor will simply focus on the hourly or daily rate and then grind the hire rate down. The fact that he will need the crane for three days instead of one

completely escapes him. If we look at the UK, there are already a fair few self erecting tower cranes at work - the majority being Spierings along with some Liebherr - although compared to Holland the market penetration is miniscule. Until the introduction of the City Boy (see story next page), Spierings had a range of five mobiles with three to seven axles and a tracked version of its largest machine. Maximum capacities range from 7.5 to 18 tonnes, with jib lengths from 33 to 60 metres and maximum hook heights from 35.7 to 64 metres. Its largest - in terms of capacity - the SK2400-AT7 - is capable of lifting 5.5 tonnes to a maximum radius of 42 metres.

The three model Liebherr MK range includes three, four and five axle models all with a maximum lift capacity of eight tonnes, with the largest five axle MK110 lifting 1.8 tonnes to its 52 metre jib tip and 1.7 tonnes to its maximum hook height of 68 metres.

mobile tower cranes C&A

Previously popular Munster cranes were taken over by Dutch company MTC in 1999 before being acquired by Arcomet of Belgium in 2001. While the company showed a mobile tower crane at Bauma (the A45D City) it tends to concentrate more on its traditional tower cranes rather than the mobile versions.

An unusual alternative is made in India by Action Construction Equipment (ACE). Its MTC 2418 is a small, two axle mobile crane with a maximum height of 15 metres and a capacity of 550kg at 18 metres radius. Maximum lift is 1,600kg.

So in summary the benefits of self erecting mobile tower cranes over regular telescopic cranes are:



The ACE MTC 2418

- Easier and faster to move
- Axle loads are never more than 12 tonnes and road speeds are higher.
- Crane arrives fully self contained
- Set up in less than half an hour
- Raised cab gives the operator excellent visibility of the load and the site
- Outrigger footprint is more compact allowing set up in narrower spaces
- Outrigger loadings are substantially lower, especially when under load



Excellent operator visibility



Set-up time can be as little as 20 minutes...

- Generally faster work cycles completing more lifts in a day
- Substantially more fuel efficient and therefore environmentally friendly
- Only needs one man to erect and operate and no additional transport.
- Built in search lights on the booms make night lifts a breeze



... and in between buildings

A new type of crane

When Spierings announced its new 'City Boy' self erecting tower crane concept, no one could have imagined such a massive leap forward in mobile tower crane design. The basics of the crane itself are impressive enough. It is more compact – narrower, shorter and more manoeuvrable - than any three axle model before it making it ideal for congested city streets. Its tower is 3.5 metres higher (at 28.5 metres) and it boasts a maximum hook height five metres better than its nearest competitor (at 53 metres) while its jib is three metres longer than Spierings' other three axle model the SK377-AT3 (see chart). The jib erection sequence has also been improved to assist set up in narrow spaces.

But this is only half the story. The City Boy also incorporates a totally new (Eco) direct electric drive



The central lubrication system

system which claims to reduce fuel consumption by at least 50 percent. The compact 400kW main electric motor is powered by a large lithium ion battery pack, with regenerative braking that channels the energy back into the batteries to extend their life and range. A small diesel engine, when used, runs at a constant speed running a generator that tops up the batteries and powers the auxiliary hydraulics that drive the rear axle for extra 'grunt' on challenging ground conditions. Finally the crane can also be plugged into the mains with its AC power cable.

With city authorities increasingly looking to reduce emissions and European contractors obliged to move towards Zero Carbon buildings, cranes such as this are bound to become popular.

The most noticeable feature is the single cab. During the erection process, the cab - which includes a rear seat for road travel - rotates forwards and transforms from the horizontal road cab position into the vertical tower crane cab. The road windscreen - now below the operator's feet - is automatically covered with a plate, while the crane cab door which forms part of the cab floor in road going format is now at the rear. The crane can still travel at creep speeds with the cab in the crane position and can also climb the tower as with other Spierings models in order to provide a tower crane view of the lift - ideal when working over the top of high buildings.



Spierings new 'City Boy'

The crane also incorporates large built-in outrigger mats which stow under the chassis for travel. Once on site the outrigger beams are extended and the mats slid into position centrally under the jacks. The City Boy includes the usual Spierings bells and whistles including automatic stowage of the hook, a central lubrication system and a massive lockable stowage space for slings etc. The company has already taken orders for 10 units in Germany, Holland and Switzerland, with lead customers



Inside the cab



The large built-in outrigger mats

being Scholpp, Flück Zurich, Mick Volendam, Mobi Hub, Wiesbauer and Saan.

How does the City Boy compare with the other main three axle models?

	Spierings City Boy	Spierings SK377-AT3	Liebherr MK66
Axles	3	3	3
GVW	36t	36t	36t
Carrier length	12.82m	13.31m	13.72m
O/A width	2.5m	2.6m	2.75m
Transport height	4.0m	4.0m	4.0m
Max load capacity	7.0t	7.5t	8.0t
Max radius	36m	33m	36m
Max lift @max radius	2.0t	1.9t	1.8t
Standard hook height	28.5m	20.0m	25.0m
Max luffing height (at radius)m	53.15 (25.8)	35.7 (28.8)	47.9 (25.8)
Outrigger footprint/m	7.1 x 6.4	6.9 x 6.4	7.1 x 6.9
Max road speed	80kph	83kph	75kph
O/S turning radius	9.72m	10.55m	10.84m
Max jib elevation	45°	30°	45°

Sutch is life

John Sutch is a well-known character in the UK crane sector. Happier keeping a low-profile, he has been in the business for almost 40 years – building up his own company, John Sutch Cranes, since 1989.

Like many other crane companies he has seen better times than at present, but is still passionate about the industry and is often the first to try new ideas and equipment such as the mobile self erecting tower crane. Mark Darwin travelled to the North West to find out more.

Sutch's first involvement with cranes dates back in 1973 when aged 20, he followed in his father's footsteps, joining Stoneycroft Crane Hire in Liverpool as an operator, driving a Hydrocon. Three years later he joined Hewden Stuart Heavy Cranes, operating cranes all over the UK. "I was the first operator to drive a 110 tonner – a Liebherr - in the UK," says Sutch. "I was just 23 and one of the youngest in the group. In those days, a 100 tonner was a big crane."



John Sutch

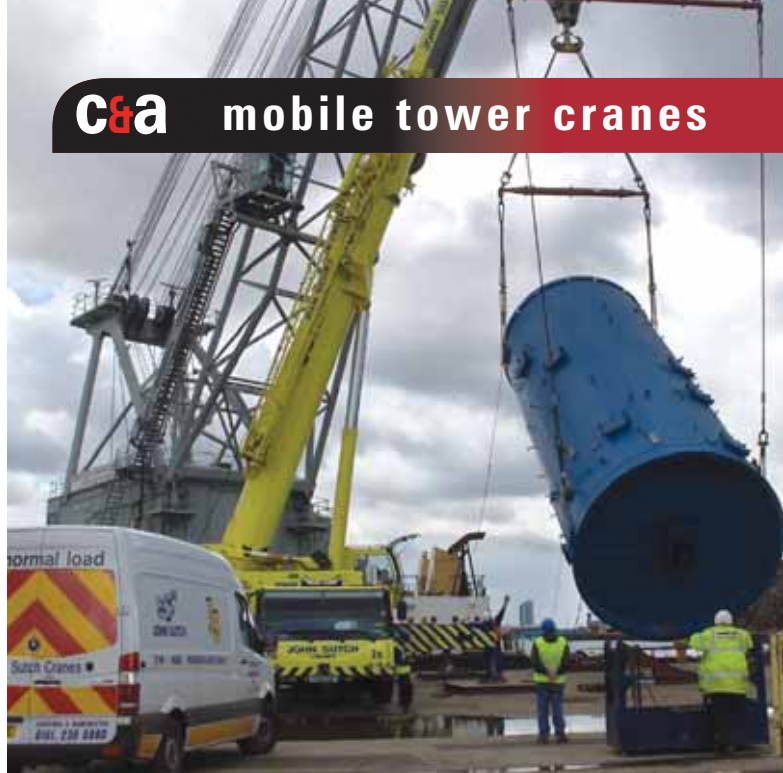
As the saying goes 'behind every successful man is a woman' and it was Sutch's wife who pushed him into starting his own company.

"Basically she thought that I could be more than just an operator," said Sutch. "I started Ainscough off in heavy cranes and drove their first 100 and 140 tonners, after taking time out after falling off a crane, I came back repping for them - looking at jobs, winning the work and doing the work - so it was only a small step to starting my own business – John Sutch Cranes."

"Martin Ainscough tried to stop me going on my own and buy my crane back (a 25 tonne Coles Hydra 25/28). But I left, started the business and am still good friends with the Ainscough family. Although it is 21 years since we started, the only celebrations we'll have this year are that we're still here!"

Sutch bought his current yard – about an acre in size not far from Liverpool City Centre - around six years later and in 2004 expanded further by opening in Trafford Park, Manchester. "More of our work was in the Manchester area as well as extending further into Yorkshire and it was becoming too expensive

Sutch was one of the first to see the potential of the mobile self erecting tower crane



c&a mobile tower cranes

(particularly the fuel costs) to operate from Liverpool."

The 33 machine fleet is split between the two depots and although the majority of the work is in the North West, the company covers the whole of the UK following its customers. "We had plans to open a new depot in the Birmingham area but these were put on hold when the current downturn hit," he said. "When business picks up again it will be back on the cards, probably next year."

The new depot was not the only thing hit by the downturn

"We had a 350 and 220 tonner plus a few smaller machines on order but all have been put on hold. Work over the past few months has picked up, but I don't want to commit to more finance at the moment. Let's get

shut of this year first! At the moment there is no money to be made on any cranes between 25 and 40 tonnes. Hopefully the weaker companies will get out of the market and the rates will improve."

Sutch thinks that the major crane hirers have a policy of trying to drive smaller companies out of business, in an effort to reduce competition. "Market leaders should lead the industry in a positive way and the rest will follow. During the worst part of the recession I had to put a significant amount of money back into the business to keep it going. We are now seeing an upturn but for many the worst is not yet over. I think more companies will go bust this year."

"It took 10 years to get the hire rates to a reasonable level before the crisis and will take another 10

The company's unusual yellow livery was a paint mistake that stuck





*John Sutch Cranes
work all over the UK*



*The 13 tonne Kato KRM13H City
crane has a 30 metre main boom*

years to return to that level," he adds. "The only area where we are making money at the moment is contract lifting."

"Cranes get in your blood and you become a prisoner to the business. I thoroughly enjoy what I do but if someone made the right offer, I would sell up and retire."

Or perhaps not as Sutch's two daughters who have been with the company for the best part of 15 years, are company directors and will probably take over the business. "When I first started 21 years ago I was getting £250 a day for the Coles crane. Now there are companies doing it for £220 – where has it gone wrong or are we all stupid? This industry needs a good shake-up."

"We do a lot of work for a major building contractor and get £850 for a 25 tonner on contract lift with two men. This is good price giving enough to reinvest in correct procedures and new equipment but there are others who will do it for £550. At this price there is no margin in it at all and it is ruining it for those who want to do it properly."

"I think we work too hard for the money we earn in this industry and the safety aspect is becoming ridiculous. Every job you go to now wants big outrigger mats yet no one wants to pay for them. Even for a 35 tonne crane they want two metre square mats – the mats are bigger than the crane!" Newly qualified AP's want stacks of information such as the outrigger loadings for the simplest of lifts."

The crane fleet at the moment includes four Spierings mobile towers. The All Terrains are mixed – Demag, Liebherr and Tadano – with most machines in the 50 to 80 tonne capacity range. At the smaller end there are five 30 and 35 tonne Demags, then five Tadanos ranging from 80 to 160 tonnes, while a 250 tonne Liebherr LTM1250-6.1 is the largest crane in the fleet. Sutch also

has an interesting 'new' 13 tonne Kato KRM13H City crane – one of just two in the country (Lee Lifting has the other) which were imported from Rivertek Services based in Blarney, Co Cork in Ireland.

"The machine was six months old when we bought it and we have run it for about a year. If I can get another I would have one in the Manchester depot. The unit has a 30 metre boom and a luffing fly jib so it is a handy crane. I paid £100,000 for it and we get £350 per day compared to £280 for a 25 tonner. You are much better off with specialised equipment."

Sutch – along with City Lifting in London - were the first companies in the UK to invest in Spierings mobile tower cranes. "We went to



Bauma 15 years ago and my wife saw the Spierings and said why don't you get one of them – and we haven't looked back. Overall it has been a very good crane for us."

Sutch took the first Spierings 599 in the UK. "It was the prototype machine and it was a nightmare," he said. "I also took a prototype 55 tonne three axle mobile from Grove and that was the same, so I have learnt over the years not to take early production models, but to hang back and wait for the faults to be ironed out. In the early days, the mobile tower cranes were very profitable," he said, "but the market was spoilt when some five axle

machines went into Heathrow Terminal 5 for £900 per day when the going rate was £1,750 a day – it was just stupid pricing!"

Most of the work for the Spierings involves placing large roofing sheets on big distribution industrial type buildings (for Asda and IKEA etc) setting the six axle Spierings up in the middle of the site and being able to reach up to 60 metres radius. To do this with an All Terrain would require a 250 tonner, two men and two transport wagons costing considerably more.

"If you add a luffing jib on a 250 tonne telescopic you are looking at rate of £10,000 whereas the six axle Spierings with one man runs around £2,200 and uses less fuel with no transport behind it. I think

the mobile tower crane will become ever more popular in the future."

Sutch is particularly impressed with the new Spierings City Boy. "The new Spierings looks really good – Leo Spierings was here last week and showed me the specifications – but if I do buy, it will be City Boy number 20, after all the faults have been sorted. In addition to its electric drive the City Boy has a taller tower and that would be very useful when working in Liverpool or Manchester city centres. We already run a three axle SK 377-AT3 and would probably swop it for the new crane."

"These cranes are relatively expensive to buy and run, but the advantage is that there are fewer of them about, helping us to get better returns. The seven axle Spierings is very good for certain jobs, but it is not versatile enough. I asked Leo if he could add another section to increase its radius to 50 metres but the crane would lose its lifting capacity. Our 250 tonne Liebherr LTM 1250 can in theory work as a 15 tonner down the docks because there's loads of room. Versatility in a crane is essential and unfortunately the seven axle Spierings isn't."

"Customers do ring up for a specific Spierings model because they know it is the best machine for their job."



"We have been running mobile tower cranes for a long time and know how to get the best out of them. Some crane hirers that got into the sector are now selling their machines because they are more complicated and can be more expensive to run."

One crane that is said to be cheaper to run are truck cranes and Sutch bought the first 40 tonne Tadano Faun HK40 which was shown at last year's Vertical Days. "The crane has been great but overall I don't think the running costs are any cheaper, apart from the tyres - £200-300 compared to £1,500. It travels better on the road and doesn't bounce as much as an AT. If I do buy another truck crane it

would probably be a 70 tonner." Sutch also has a Maeda five tonne mini crawler crane and is considering adding another.

Despite the current climate and the dire rates for the smaller All Terrain, the company is looking for a new 40/45 tonner and is considering the new Liebherr LTC1045 launched at Bauma or the less expensive Demag AC40. "We took the first AC40 in the UK and currently have three AC30's in the fleet but are looking to replace one with the new 40/45 tonner. Unfortunately I didn't make it to Bauma which is a shame given that Terex, Liebherr and Tadano Faun were all there. When we go for the new 220 and 350 tonners Liebherr is the current



favourite. However we probably have the biggest Tadano Faun fleet in the UK and they give us great service and have a 220 and new 360 tonner so we have not made our final decision yet."

"The 350 tonner will replace the 250 tonne Liebherr, leaving us short in the 200 tonne range so we would fill in with the 220 tonner." Sutch recently sold its Potain Igo 36 self erecting tower crane, not because of the returns (which were quite good) but because it took focus away from the core business.

"The recession makes you concentrate on what you are good at," says Sutch, "and for us that is mobile cranes."





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